

3.2 Medical Requirements Overview

TABLE 3.2: MEDICAL REQUIREMENTS OVERVIEW

MRID# and Title:	MR076S Photodocumentation of Skin Injuries and Allergic Reactions for Shuttle Crews
Sponsor:	Medical Operations
IPT:	Immunology/Infectious Disease
Category:	Medical Requirement (MR)
References:	Astronaut Medical Evaluation Requirements Document (AMERD), JSC 24834, Appendix A, Section, 3.13
Purpose/Objectives:	To provide visual images to support diagnosis and documentation of cutaneous injuries and allergic responses. Photographs of affected areas will be taken at appropriate intervals to document the site of injury. Flight surgeons may use the images to evaluate the extent and nature of the injury and to monitor follow-up treatment. The photographic image will provide critical information on rates of healing for cuts and rashes, analysis of event incidence, and support assessment of crewmember health risks.
Measurement Parameters:	Visual images of affected areas.
Deliverables:	Images that may be used to evaluate an injury or reaction and to monitor follow-up treatment. Analysis of rates of healing for cuts and rashes . Analysis of event incidence.
Flight Duration:	< 30 days
Number of Flights:	All
Number and Type of Crew Members Required:	All U.S. crewmembers (primary – pre- and postflight, backup – preflight only).
Other Flight Characteristics:	N/A

3.3 Preflight Training**TABLE 3.3: PREFLIGHT TRAINING**

Preflight Training Activity	Description:	Training on the use of the 35mm still camera and, if available, the digital 35mm camera will be performed by MOD as part of routine systems training. A familiarization session will be conducted by the flight surgeons during the Medical Operations Preflight Briefing.			
	Schedule:	Duration:	Schedule:	Flexibility:	Personnel Required:
		Familiarization Session - As required	L-10 days	N/A	Crew/Flight Surgeon
Ground Support Requirements Hardware/Software	Preflight Hardware:	Preflight Software:		Test Location:	
	35 mm camera 35 mm digital camera Ruler	N/A		U.S.	
Training Facilities	Minimum Room Dimensions:	Number of Electrical Outlets:		Temperature Requirements:	Special Lighting:
	8' x 10'	2 (110V)		Ambient	N/A
	Hot or Cold Running Water:	Privacy Requirements:		Other:	
	N/A	Area with restricted access		N/A	
Constraints/Special Requirements:	Conducted as part of the Medical Operations Preflight Briefing				
Launch Delay Requirements:	N/A				
Notes:	N/A				

3.4 Preflight Activities – No Preflight Activities**3.5 In-Flight Activities****TABLE 3.5.1: IN-FLIGHT ACTIVITIES**

In-Flight Activity	Description:	This task is event based. Crewmember should report any minor/major infections/allergies/hypersensitivities/injuries during private medical conference (PMCs). The report should include an accurate time when the injury occurred or when the first onset of illness happened. Using the on-board 35 mm camera, the area(s) of concern should be photographed to provide documentation of the illness/injury. One to two overhead shots should be taken. A small ruler should be positioned within the field of view to provide scale. Photographs should be taken at 24 hour intervals until resolution of the event or as determined by ground medical personnel. If possible, images and a report of circumstances may be downlinked to ground medical personnel for intervention and action. The Crew Surgeon will inform the Immunologist within one week if photodocumentation images were collected during flight.					
	Schedule:	Activity:	Duration:	Schedule:	Flexibility:	Blood Volume:	Personnel Required:
		In-flight photodocumentation of skin injury, allergic reactions	As required	24-hour intervals until resolved	N/A	N/A	Operator & subject
		Follow-up photodocumentation	As required	At discretion of Flight Surgeon	N/A	N/A	Operator & subject
Procedures:		Procedures will be developed in-house and contained within the Medical Checklist.					
Constraints / Special Requirements:		N/A					
Photo / TV Requirements:		35mm photographs of affected areas. Downlink of digital 35mm images as determined by Flight Surgeon.					
Cold Stowage Requirements:		N/A					
Mission Extension Requirements:		N/A					
Landing Wave-Off Requirements:		N/A					
Data Delivery		Data/Report to Designated Recipients (Nominal/Contingency):					
		If the digital 35 mm camera is available and at the discretion of the Flight Surgeon, downlink of images may be requested. Any images generated during in-flight will be returned to the Immunologist within 2 weeks of landing. A final report will be submitted to the Flight Surgeon within 30 days of landing. The Immunologist or his appointee will be responsible for tracking, identifying, ordering, and pickup of all photographs.					

In-Flight Activities, (cont.)**TABLE 3.5.2: IN-FLIGHT HARDWARE**

Hardware/Software Name	P/N	ISS Location	Vehicle (Up/Dn)	Category	Late Access / Early Destow/ Early Return	Docked Ops	Weights (kg)	Volume (cm ³)	Dimensions LxWxH (cm)	Power (watts)	Resupply	Download / Downlink
35 mm camera	N/A	N/A	Shuttle	N/A	N/A	No	N/A	N/A	N/A	Batteries	N/A	N/A
35 mm digital camera	N/A	N/A	Shuttle	N/A	N/A	No	N/A	N/A	N/A	Batteries	N/A	N/A
Ruler	N/A	N/A	Shuttle	N/A	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A

3.6 Postflight Activities – No Postflight Activities

3.7 Summary Schedule**TABLE 3.7: SUMMARY SCHEDULE**

ACTIVITY	DURATION	SCHEDULE	FLEXIBILITY	BLOOD VOLUME	PERSONNEL REQUIRED	CONSTRAINTS
Preflight Training						
Familiarization Session	As required	L-10 days	N/A	N/A	Flight Surgeons/Crew	Conducted as part of the Medical Operations Preflight Briefing
Preflight – N/A						
In-Flight						
In-flight photodocumentation of skin injury, allergic reactions	As required	24-hour intervals until resolved	N/A	N/A	Operator & subject	Event based, or at discretion of Flight Surgeon
Follow-up photodocumentation	As required	At discretion of Flight Surgeon	N/A	N/A	Operator & subject	At discretion of Flight Surgeon
Wheels-Stop – N/A						
Postflight – N/A						
Postflight Debrief – N/A						